

WHAT IS CLAIMED IS:

1. An apparatus for piercing container caps, comprising:
 - a) a piercing blade having a generally Z-shaped cross-section; and
 - b) means for moving said blade to pierce a cap on a container.
- 5 2. The apparatus as defined in claim 1, wherein said piercing blade has at least one sharpened tip for piercing a cap of a container and spreading the load applied on the blade.
3. The apparatus as defined in claim 1, wherein said means for moving said blade assembly further comprises:
 - 10 a) a carriage assembly for moving said blade; and
 - b) means for driving said carriage assembly.
4. The apparatus as defined in claim 1, further comprising an alignment block assembly for restraining said container when said piercing blade is being withdrawn after piercing a cap.
- 15 5. The apparatus as defined in claim 4, further comprising a latch assembly for latching said alignment block assembly when said piercing blade is being withdrawn from a pierced cap to prevent said container from being moved by friction with said withdrawn blade.
6. The apparatus as defined in claim 5, wherein said latch assembly further comprising a trigger movable between a latching position when said piercing
20 blade is being withdrawn from a pierced cap and an unlatched position after said piercing blade has been withdrawn from said pierced cap.
7. The apparatus as defined in claim 6, wherein said latch assembly further comprising an actuator engaged with said trigger and having locking means, such
25 that when said trigger moves to said latching position, said actuator causes its locking means matingly locked with a fixed complimentary locking means to latch said alignment assembly, and when said trigger moves to said unlatched position, said actuator causes its locking means to unlock from said fixed complimentary locking means to unlatch said alignment assembly.
- 30 8. The apparatus as defined in claim 7, wherein said locking means of said actuator and said fixed complimentary locking means are gear rack teeth.
9. The apparatus as defined in claim 7, wherein said locking means of said actuator and said fixed complimentary locking means are saw teeth.
10. The apparatus as defined in claim 7, wherein said actuator is spring-biased.

11. An apparatus for piercing container caps, comprising:
- a) means for moving a blade to pierce a cap on a container;
 - b) a latch assembly for latching a device to prevent said container from being moved by friction with said blade when said blade is being withdrawn from a pierced cap.
12. The apparatus as defined in claim 11, wherein said piercing blade has a Z-shaped cross-section.
13. The apparatus as defined in claim 1, wherein said piercing blade has at least one sharpened tip for piercing a cap of a container and spreading the load applied on the blade.
14. The apparatus as defined in claim 1, further comprising:
- a) a carriage assembly for moving said piercing blade; and
 - b) means for driving said carriage assembly.
15. The apparatus as defined in claim 11, wherein said device for preventing said container from being moved comprises an alignment block assembly.
16. The apparatus as defined in claim 11, wherein said latch assembly further comprising a trigger movable between a latching position when said piercing blade is being withdrawn from a pierced cap and an unlatched position after said piercing blade has been withdrawn from said pierced cap.
17. The apparatus as defined in claim 16, wherein said latch assembly further comprising an actuator engaged with said trigger and having locking means, such that when said trigger moves to said latching position, said actuator causes its locking means matingly locked with a fixed complimentary locking means to latch said alignment assembly, and when said trigger moves to said unlatched position, said actuator causes its locking means to unlock from said fixed complimentary locking means to unlatch said alignment assembly.
18. The apparatus as defined in claim 17, wherein said locking means of said actuator and said fixed complimentary locking means are gear rack teeth.
19. The apparatus as defined in claim 17, wherein said locking means of said actuator and said fixed complimentary locking means are saw teeth.
20. The apparatus as defined in claim 17, wherein said actuator is spring-biased.
21. An apparatus for piercing container caps, comprising:
- a) a piercing blade having a generally Z-shaped cross-section;
 - b) means for moving said blade to pierce a cap on a container; and

- c) means for preventing said container from being moved by friction with said blade when said blade is being withdrawn from a pierced cap.

22. The apparatus as defined in claim 1, wherein said piercing blade has at least one sharpened tip for piercing a cap of a container and spreading the load applied on the blade.

23. The apparatus as defined in claim 1, wherein said means for moving said blade assembly further comprises:

- a) a carriage assembly for moving said blade; and
- b) means for driving said carriage assembly.

24. The apparatus as defined in claim 1, wherein said preventing means comprises an alignment block assembly for restraining said container when said piercing blade is being withdrawn after piercing a cap.

25. The apparatus as defined in claim 21, wherein said preventing means further comprises a latch assembly for latching said alignment block assembly when said piercing blade is being withdrawn from a pierced cap to prevent said container being lifted up by friction with said withdrawn blade.

26. The apparatus as defined in claim 25, wherein said latch assembly further comprises a trigger movable between a latching position when said piercing blade is being withdrawn from a pierced cap and an unlatched position after said piercing blade has been withdrawn from said pierced cap.

27. The apparatus as defined in claim 26, wherein said latch assembly further comprises an actuator engaged with said trigger and having locking means, such that when said trigger moves to said latching position, said actuator causes its locking means matingly locked with a fixed complimentary locking means to latch said alignment assembly, and when said trigger moves to said unlatched position, said actuator causes its locking means to unlock from said fixed complimentary locking means to unlatch said alignment assembly.

28. The apparatus as defined in claim 27, wherein said locking means of said actuator and said fixed complimentary locking means are gear rack teeth.

29. The apparatus as defined in claim 27, wherein said locking means of said actuator and said fixed complimentary locking means are saw teeth.

30. The apparatus as defined in claim 27, wherein said actuator is spring-biased.